

Discovering Jupiter - Educator's Guide (Ages 12-15)



At the end of these Night Sky activities students will understand:

- Jupiter is a planet in the Solar System visible from Earth
- Jupiter is a gas giant planet significantly larger than Earth
- The planet is largely composed of hydrogen in different states
- Large scale weather systems can be seen in the planet's atmosphere

Astronomy background information

Largest of all the planets, Jupiter is about 11 times as wide as the Earth and has a volume equal to more than 1300 Earths. Jupiter is a gas giant planet, mainly composed of hydrogen with no solid surface at all. Planets like Jupiter have a rocky and metallic core hidden deep inside. In Jupiter's case, this core is surrounded by a layer of solid metallic hydrogen. Metallic hydrogen can only exist under the extreme pressures deep inside giant planets. The metallic hydrogen layer is covered by a soupy ocean of liquid hydrogen. Above this fluid layer is a gaseous atmosphere of mainly hydrogen with some helium and very slight traces of other materials.

Looking at Jupiter, we are not seeing its surface, but the cloud cover at the top of its atmosphere. Cloud formations can be seen as light and dark streaks running across the face of the planet. The atmosphere exhibits huge cyclone-style storms which can last for centuries. The most famous of Jupiter's storms is the "Great Red Spot", which is bigger than the Earth!

Jupiter is about five times as far from the Sun as Earth and takes just under 12 years to complete an orbit.

Night Sky App Essential Settings

Go to Night Sky Settings  and make sure the following Preferences are set.

Turn On these Effects:

Environment Based Horizon
Draw Trajectories and Orbits
Show Constellation Lines

Turn Off these Effects:

Show Satellites
Real Sky Representation
Show Glass Mythology

Accessible Learning:

- Text size can be increased in the Preferences section
- Star numbers can be reduced by sliding two fingers down the screen

